UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/590,821	06/08/2007	**Kan Fujihara**	062940	1112

38834 7590 02/11/2009

WESTERMAN, HATTORI, DANIELS & ADRIAN, LLP
1250 CONNECTICUT AVENUE, NW
SUITE 700
WASHINGTON, DC 20036

EXAMINER	
HAUTH, GALEN H	

ART UNIT	PAPER NUMBER
1791	

MAIL DATE	DELIVERY MODE
02/11/2009	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/590,821	FUJIHARA ET AL.	
	Examiner	Art Unit	
	GALEN HAUTH	1791	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *25 November 2008*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-5 and 7-20* is/are pending in the application.

4a) Of the above claim(s) *18-20* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-5 and 7-17* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Response to Amendment

1. Acknowledgment is made to applicant's amendment of claims 1, 7, 8, 9, 15, 16, and 17 and the cancellation of claim 6. No new matter has been added.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3. The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

4. Claims 1, 2, 10, 11, and 15 are rejected under 35 U.S.C. 102(b) as being anticipated by Uhara et al. (Pub No 2004/0010113) as evidenced by Dunbar (PN 6949296).

a. With regards to claim 1, Uhara teaches a method for making a film continuously (¶ 0079) in which a composition containing a polymer and an organic solvent (¶ 0057) is cast onto a surface to form a gel film (¶ 0047). The gel film is peeled from the support and carried through an oven with the ends

fixed by tenter clips (¶ 0075-0076, by fixing the film with tenter clips the film is carried with substantially no tension in the transverse direction as the tenter clips remain equidistant on a manufacturing line as evidenced by Dunbar col 6 ln 17-29 in which Dunbar teaches that tentering is a process for minimal mechanical tension when moving films through an oven such as polyimide as described in the abstract of Dunbar.) Uhara teaches stretching the film in the transverse direction (¶ 0078, by stretching the film by increasing the distance between clips at the edge of the film this results in stretching in the transverse direction.)

b. With regards to claim 2, Uhara teaches transporting the film using tenter clips (¶ 0075-0076, by fixing the film with tenter clips the film is carried with substantially no tension in the transverse direction as the tenter clips remain equidistant on a manufacturing line as evidenced by Dunbar col 6 ln 17-29 in which Dunbar teaches that tentering is a process for minimal mechanical tension when moving films through an oven such as polyimide as described in the abstract of Dunbar.)

c. With regards to claim 10, Uhara teaches that the film is a polyimide film (abstract.)

d. With regards to claim 11, Uhara teaches transporting the film using tenter clips (¶ 0075-0076, by fixing the film with tenter clips the film is carried with substantially no tension in the transverse direction as the tenter clips remain equidistant on a manufacturing line as evidenced by Dunbar col 6 ln 17-29 in which Dunbar teaches that tentering is a process for minimal mechanical tension

when moving films through an oven such as polyimide as described in the abstract of Dunbar.) Uhara teaches that the film is a polyimide film (abstract).

e. With regards to claim 15, Uhara teaches that the film is a polyimide film (abstract.)

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

6. The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

7. Claims 3, 4, 5, and 12-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Uhara et al. (Pub No 2004/0010113) as evidenced by Dunbar (PN 6949296) as applied to claim 1 above.

a. With regards to claim 3, Uhara teaches a method for making a film in which the film is passed through an oven at two temperatures (¶ 0077 a lower drying temperature and a higher curing temperature.) Uhara teaches that the film starts at a temperature of 250 degrees Celsius (¶ 0104, this temperature is

the beginning oven temperature which is less than 300 degrees Celsius.) Uhara does not teach the use of at least two oven units. It would have been obvious to one of ordinary skill in the art at the time the invention was made to use at least two oven units to provide the lower and higher temperatures taught by Uhara, because doing so would prevent the oven from constantly raising and lowering the temperature several hundred degrees resulting in process inefficiency and product inconsistency.

b. With regards to claim 4, Uhara teaches a method for making a film in which the film is transported through an oven by tentering clips which is a low tension process as described in the rejection of claim 1 above. Uhara does not teach that the film satisfies the equation where Y equals the width of the film and X equals the width of the tentering clips of

$$20 \geq (Y - X) / Y \times 100 > 0.00$$

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have the width of the film close to the width of the tentering clips so as to prevent bowing of the film resulting in an uneven and inconsistent product.

c. With regards to claims 5, 12, 13, and 14 see the rejection of the limitations of claims 2, 3, 4, and 10 above as the preceding claims contain the limitations of the latter claims in combination.

8. Claim 7-9 and 16-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Uhara et al. (Pub No 2004/0010113) as evidenced by Dunbar (PN 6949296) as applied to claim 1 above, and further in view of Okahashi et al. (PN 5324475).

a. With regards to claim 7, Uhara as applied to claim 1 above teaches a method for making a film in which the film is stretched in the transverse direction. Uhara does not teach that the film satisfies the equation in which Z is the width prior to stretching and W is the width after stretching in which

$$40.0 \geq (W - Z) / Z \times 100 > 0.00$$

Okahashi teaches a method for making a polyimide film from a solution of polyamic acid precursor and organic solvent in which a gel film (similar to Uhara) is stretched in the transverse direction (abstract.) Okahashi teaches that the film is stretched in the machine direction in a ratio of 1.1-1.9 and then in the transverse direction to maintain a transverse/machine stretch ratio of 0.9-1.3 (abstract.) Okahashi teaches stretching the film in the transverse direction to 1.3 times its unstretched length (col 10 ln 2-4, this gives a value of 1.3 for W and 1 for Z resulting in a value of 30.0 which is between 40.0 and 0.00.) Okahashi teaches that stretching the film at this ratio provides in-plane anisotropy with a curling rating of medium in the biaxially stretched film (col 10 ln 6-11.) It would have been obvious to one of ordinary skill in the art at the time the invention was made to stretch the polyimide film of Uhara transversely at a stretch ratio of 1.3 times the original length as taught by Okahashi, because doing so provides in

plane anisotropy with a curling rating of medium as Uhara acknowledges stretching (¶ 0078) of the polyimide film as does Okahashi (abstract.)

b. With regards to claims 8, 9, 16, and 17, the claims are rejected as they are mere combinations of the limitation of claim 7 rejected above and the limitations in claims 2, 3, 4, and 10 above.

Response to Arguments

9. Applicant's arguments filed 11/25/2008 have been fully considered but they are not persuasive.

With regards to applicant's argument that Uhara as evidenced by Dunbar fails to teach that the film is carried with substantially no tension applied in the TD direction is not persuasive. While applicant defines in the specification that substantially no tension means that there is no tension except for that due to its own weight, the teaching of Uhara does not requiring the active stretching of the film during transportation to the oven and thus would not require tension above that of supporting the film.

Conclusion

10. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL.** See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within

TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to GALEN HAUTH whose telephone number is (571)270-5516. The examiner can normally be reached on Monday to Thursday 8:30am-5:00pm ET.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Christina Johnson can be reached on (571)272-1176. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/GHH/

/Christina Johnson/
Supervisory Patent Examiner, Art Unit 1791